UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,906	07/24/2006	Terutaka Bessho	128830	1820

25944 7590 07/08/2008

OLIFF & BERRIDGE, PLC
P.O. BOX 320850
ALEXANDRIA, VA 22320-4850

EXAMINER	
VORTMAN, ANATOLY	
ART UNIT	PAPER NUMBER
2835	

MAIL DATE	DELIVERY MODE
07/08/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/586,906	BESSHO ET AL.	
	Examiner	Art Unit	
	ANATOLY VORTMAN	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5,11,13 and 16* is/are rejected.

7)☒ Claim(s) *4,6-10,12,14 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/24/06,5/7/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 5, 9, and 10 are objected to because of the following informalities: Claim 5, line 5 of the claim, an article [an] should be replaced with --a-- before "direction". Further, the limitations "said power-output conductor" in claims 9 and 10 lack antecedent basis, since only the "output conductor" had been positively set forth in claim 8. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5, and 13, are rejected under 35 U.S.C. 102(b) as being anticipated by US/2002/00800562 to Nakamura et al (Nakamura)..

Regarding claim 1, 3, and 13, Nakamura disclosed (Fig. 2) a fuse module for supplying a power from a common power supply to a plurality of power input sections (2A-2D) of a circuit assembly through respective fuse elements (16A-16C), comprising: a branch-connection conductor (3) having an input terminal (14) adapted to be connected to said power supply, and a

plurality of fuse-connection terminals (13a-13d) disposed correspondingly to said respective power input sections; a plurality of power-input conductors (12a, 12e, 12i, 12m) adapted to be electrically connected to a corresponding one of said power input sections, and each having a fuse-connection terminal (11a-11d) disposed in a pair with a corresponding one of the fuse-connection terminals (13a-13d) of said branch-connection conductor; and an insulation housing (Fig. 10-16) holding said branch-connection conductor and said power-input conductor, said insulation housing being formed with a plurality of fuse-installation portions (e.g. (32), Fig. 12, 14) for allowing said respective fuse elements to be detachably installed therein in such a manner that each of said fuse elements is connected to the fuse-connection terminal of said branch-connection conductor and the corresponding fuse-connection terminal of said power-input conductor to be interposed between said fuse-connection terminals of the each pair (Fig. 3), wherein said power-input conductors having electric-connection portions protruding outside said insulation housing to be electrically connected to a corresponding one of the power input section of said circuit assembly (Fig. 12, 16).

Regarding claim 2, Nakamura disclosed that said circuit assembly has a plurality of bus bars (12b-d; 12f-h; 12j-l; 12n-p) including a plurality of input bus bars (5a, 5b, 5c, 5d) corresponding to said power input sections (2A-2D), said bus bars being arranged to form a power circuit, wherein each of said input bus bars has an end which is formed with said fuse-connection terminal (11a-11d) and held in said insulation housing to serve as said power-input conductor (12a, 12e, 12i, 12m).

Regarding claim 5, Nakamura disclosed that said plurality of fuse-installation portions formed in said insulation housing are arranged along a direction orthogonal to an aligning

direction of said fuse-connection terminals (11a-d, 16a-d) of the pair in each of said fuse-installation portions, and said branch-connection conductor (3a) extends along an direction in which said pairs of the fuse-connection terminals are arranged (Fig. 2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura taken alone.

Regarding claim 11, Nakamura disclosed all, but that said branch-connection conductor includes a direct-connection portion adapted to be electrically connected directly to a specific one of said power input sections in said circuit assembly without interposition of said fuse element.

It would have been obvious to a person of the ordinary skill in the fuse art at the time of the invention to provide a fuse-less connection in the fuse module of Nakamura, so as to include a direct-connection portion adapted to be electrically connected directly to a specific one of said power input sections in said circuit assembly without interposition of said fuse element, in order to supply electrical power to a circuit, which does <u>not</u> require overcurrent protection, or in the alternative, to avoid redundant overcurrent protection.

Regarding claim 16, Nakamura disclosed that the fuse module is mounted to a vehicle body (col. 1, lines 36-41), but did not explicitly stated that said fuse module is superimposed on a circuit connection bus bar for connecting a power supply connected to said input terminal to another vehicle-mounted circuit.

It would have been obvious to a person of the ordinary skill in the fuse art to superimpose said fuse module of Nakamura on a circuit connection bus bar for connecting a power supply connected to said input terminal to another vehicle-mounted circuit, in order to supply power to another portion of vehicular electrical system.

The aforementioned basic and simple techniques recited in claims 11 and 16 (i.e. providing fuse-less electrical connections and providing additional bus bars for supplying electrical power to various sections of electrical installation) have been notoriously known and widely used in relevant electrical arts at the time of the invention to improve upon similar devices, therefore, applying the aforementioned known techniques to the fuse module of Nakamura would have yielded predictable beneficial results as stated above, and thus, would have been obvious to a person of the ordinary skill to try with reasonable expectation of success. *KSR v. Teleflex*, 550 U.S. ___, 127 S. Ct. 1727 (2007).

Allowable Subject Matter

6. Claims 4, 6-10, 12, 14, and 15, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 4, the claim recites the limitations: "a plurality of bus bars including a plurality of input bus bars corresponding to said power input sections, said bus bars being arranged to form a power circuit, wherein each of said power- input conductors is provided with a press-fit portion as the electric- connection portion, the press-fit portion adapted to be press-fitted into a through-hole formed in a corresponding one of said input bus bars to be electrically connected to said input bus bar";

regarding claims 6-7, the base claim 6 recites the limitations: "an input terminal adapted to be connected to an additional power supply other than said power supply to be connected to the input terminal of said branch-connection conductor, wherein [...] said insulation housing holds said power-connection conductor and said specific power-input conductor, said insulation housing being formed with a fuse-installation portion for allowing one of said fuse elements to be detachably installed therein in such a manner that said fuse element is connected to the fuse-connection terminal of said power-connection conductor and the fuse-connection terminal of said specific power-input conductor, and interposed between said two fuse-connection terminals";

regarding claims 8-10, the base claim 8 recites the limitations: "an external-output conductor having a fuse-connection terminal, and an external- output terminal adapted to be connected to an external circuit, wherein [...]said insulation housing holds said output conductor and said external-output conductor, said insulation housing being formed with a fuse-installation portion for allowing one of said fuse elements to be detachably installed therein in such a manner that said fuse element is connected to the fuse-connection terminal of said output conductor and

the fuse- connection terminal of said corresponding external-output conductor to be interposed between said two fuse-connection terminals";

regarding claim 12, the claim recites the limitations: "said branch-connection conductor includes an inter-terminal portion extending in a direction parallel to an arranging direction of said fuse-installation portions in said insulation housing so as to pass through between said fuse-connection terminals of said pair disposed at a specific one of said fuse- installation portions of said insulation housing, wherein said direct-connection portion extends from said inter-terminal portion toward said specific power input section"; and,

regarding claims 14 and 15, the base claim 14 recites the limitations: "said circuit assembly includes a current-detection bus bar provided with an input terminal and an output terminal between which a detection-target current is allowed to flow, at least one of said input and output terminals being held in said insulation housing".

The aforementioned limitations in combination with all remaining limitations of the respective claims and with all of the limitations of the base and intervening claims, are believed to render said claims 4, 6, 8, 12, and 14 and all claims dependent therefrom allowable over the Nakamura ('562) reference and over the remaining art of record.

Conclusion

8. The remaining relevant art made of record on PTO-892 was not relied upon, but is considered pertinent to Applicant's disclosure, because of the teachings of various fuse modules and fuse boxes accommodating plurality of fuses.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANATOLY VORTMAN whose telephone number is (571)272-2047. The examiner can normally be reached on Monday-Thursday, between 10:00 am and 8:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Jayprakash Gandhi can be reached on 571-272-3740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anatoly Vortman/
Primary Examiner, Art Unit 2835